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AUTHOR Sorenson, Nancy L.
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ABSTRACT

The vocabulary lists from five basal readers were examined in an effort (1) to determine what information is taught in the form of phonic generalizations in current, primary-level basal readers; (2) to examine intraprogram reliability of those generalizations; and (3) to determine whether the content of generalization instruction had changed since a 1963 study. The five series selected for study were "The Ginn Reading Program," the Harcourt Brace Jovanovich "Bookmark Reading Program," "The Houghton Mifflin Reading Program," "Series R Macmillan Reading," and Scott, Foresman and Company's "Basics in Reading." Separate lists of orthographically conforming words were created for the generalizations within each reading series. Orthographically conforming words were analyzed to determine which words conformed phonemically to the generalizations. Forty-two generalizations were found in all series. Seven of the generalizations were common to three or more of the basal series, while 26 were unique to one series. In all programs 60% or more of the generalizations met acceptable levels of reliability and acceptability. Finally, only 13 of the generalizations from 1963 were found in the current list; 12 had been subsumed by more generic generalizations; 20 no longer appeared. (HOD)

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PHONIC GENERALIZATION INSTRUCTION IN FIVE CURRENT BASAL READERS

by

Nancy L. Sorenson
816 Villard
Cheney, WA 99004

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Running Head: Phonic Generalizations

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ABSTRACT

This study had three purposes: (a) to determine what information is taught in the form of phonic generalizations in current, primary-level basal readers; (b) to examine intraprogram reliability of those generalizations; and (c) to determine whether the content of generalization instruction has changed since the Clymer (1963) study.

The vocabulary lists from five basal readers were entered in a computer file. Separate lists of orthographically conforming words were created for the generalizations within each reading series. Orthographically conforming words were analyzed to determine which words conformed phonemically to the generalizations. Percents of reliability and applicability were calculated for each generalization.

Forty-two generalizations were found in all series. Seven of the generalizations were common to three or more of the basal series. Twenty-six were unique to one series. In all programs 60% or more of the generalizations met acceptable levels of reliability and acceptability. Only 13 of the Clymer (1963) generalizations are found in the current list; 12 have been subsumed by more generic generalizations; 20 no longer appear.

An important goal of beginning reading instruction is teaching readers how to use letter-sound correspondences. Because correspondences between the symbols of English orthography and the sounds of the English language are complex, there has been little consensus on how these relationships should be taught. One means of handling this problem has been to teach phonic generalizations as clues to certain letter-sound relationships. Phonic generalizations are statements about conditional grapheme patterns that readers are taught to use to predict pronunciations of individual letters, syllables, and words. Published reading programs commonly have included sets of phonic generalizations as part of their total phonics programs (Spache, 1960; Clymer, 1963; Wardhaugh, 1971).

Clymer (1963) found little uniformity in either the content or quantity of generalizations presented in four primary-level basal reading series. He selected 45 generalizations for further analysis; his concern was in determining how reliably those generalizations could be applied in the vocabularies of the reading textbooks. Of the 45 generalizations studied, he found only 18 that were reliable predictors of word pronunciation.

Clymer critiqued pedagogical aspects of teaching phonic generalizations; other researchers have questioned the psychological and linguistic soundness of phonic generalization instruction (Spache, 1960; Wardhaugh, 1971; MacGinitie, 1976). Together their criticisms implied that change was needed in this aspect of phonics instruction.

Basal reading programs have undergone a number of changes since Clymer's (1963) study. Phonics instruction is now introduced and completed at earlier grade levels than it once was (Spache & Spache, 1977); vocabulary loads have been increased at all grade levels (Barnard & DeGracie, 1976). It is not certain whether changes have also occurred in the practice of teaching phonic generalizations. The purpose of this study was to examine the status of phonic generalization instruction in current basal readers. To this end the researcher investigated the following questions:

1. Do phonic generalizations appear in current basal reading programs?
2. How reliable are current generalizations when they are applied to vocabulary words in the same reading programs?
3. How does the list of current phonic generalizations compare with the 45 generalizations identified by Clymer (1963)?

Procedures

Selection of Basal

Reading Texts

Five reading series were selected for study: The Ginn Reading Program (1982), The Harcourt Brace Jovanovich Book-mark Reading Program (1979), The Houghton Mifflin Reading Program (1981), Series R Macmillan Reading (1980), and Scott, Foresman and Company's Basics in Reading (1981). These series were selected because they are leading sellers, they receive national commercial promotion, and they have current copyright dates. These criteria for selection were patterned after those Durkin (1981) used in a study of comprehension instruction in basal reading programs.

Selection of Vocabulary Words

Since most phonics instruction is completed by the end of the primary grades (Spache, 1977), only vocabulary lists from the grade 1-3 lists were used. Words from the grade-level lists were coded by publisher and entered in a computer file. Place names, proper names, foreign words, contractions, hyphenated words, abbreviations, and invented words were excluded from the file. Inflectional forms ending in s, es, d, ed, and ing were reduced to base form.

Identification of Phonic
Generalizations

Identification of phonic generalization statements was a multiphased process. In the first phase the researcher read through all pages in the teacher's manuals of the basal readers that related to word recognition instruction. The product of this phase was a written summary of the structure and content of the word recognition program in each of the basal reading series.

In the second phase of the textbook examination the researcher reread all pages dealing with word recognition instruction. The purpose of the second reading was to list a statement for each phonic skill taught in the programs. Each statement was recorded on an index card. Word-for-word transcriptions were made where possible. The researcher and an independent examiner compared these statements with the definition of phonic generalization specified for this study to determine which statements conformed to that definition. The results of the two examiners' analyses were compared. The few differences that occurred were resolved by additional reference to the teacher's manuals and discussion by the examiners.

Several months after the initial reading of the manuals, the researcher read through the teacher's manuals a third time. During that reading the researcher recorded

only those statements that conformed to the definition of phonic generalization. This set of statements was compared with the first set to check the consistency of judgments about which statements fit the definition of phonic generalizations. There was complete agreement between the first and second sets of generalizations.

Notational System

A notational system was developed to represent the content of generalization statements symbolically. The system is an adaptation of one developed by Desberg and Berdiansky (1968). An interpretation of the symbols follows.

The symbol (::) means "is pronounced as." Characters to the left of this symbol refer to a grapheme unit. Characters to the right are phonetic symbols that indicate the pronunciation of the unit. The phonetic symbols are enclosed in double slashes (/ /).

An example, b::/b/, is read "The letter b is pronounced as the sound /b/."¹

Other symbols used were:

1. V : any vowel, including vocalic y.
2. C : any consonant, including consonantal y and w.

¹Unless indicated, phonetic symbols used are those found in the Webster's New World Dictionary (1980).

3. S : any syllable.
4. a,b,c,...z : specific vowel and consonant letters.
5. * : indicates vowel pronunciations that are labeled long vowel sound by the basal readers (i.e., /ā/, /ē/, /ī/, /ō/, /yōō/); unmarked vowel letters or symbols stand for the pronunciations that are labeled short vowel pronunciations by the basal readers (i.e., /a/, /e/, /i/, /o/, /u/).
6. # : a silent grapheme unit (e.g., e :: /#/ in the word rope).
7. - : used to indicate the position of the grapheme unit; a hyphen before the unit indicates that the unit occurs at the end of a word; a hyphen after the unit indicates that the unit occurs at the beginning of a word (e.g., -lk would be read, "word ending in the letters lk"; kn- would be read, "word beginning with the letters kn"); a grapheme unit without accompanying hyphens may appear in any position.
8. . : syllable division (e.g., lit·tle).
9. + : is read, "followed by" (e.g., o+ld is read, "the letter o followed by the letters l and d").
10. , : letters within a grapheme unit that are separated by commas show optional spellings of the

unit (e.g., g+i,e ::/j/, is read, "the letter g followed by either the letter i or the letter e is pronounced with the sound /j/").

11. 2,3 : a numeral or numerals appearing before the symbol, S, indicates the number of syllables in a word (e.g., 2,3 S-y ::/-e*/, is read, "a y at the end of a two- or three-syllable word has the sound of long e").
12. 1 : appearing in units such as CC1 or VV1 indicates that the second consonant or vowel is identical to the first.
13. ' : stressed syllables; unstressed syllables are indicated by the subscript unaccented (e.g., S_{unaccented}).
14. & : when used with r-controlled vowels, shows that the vowel pronunciation is influence by the r.

Search Programs

A PDP 1170 computer was used to search for words containing the graphemic patterns specified by individual phonic generalizations. Searches were conducted in one of two ways. For one set of generalizations the PDP text editor (XED) was used to search for words containing specific patterns. For example, the text editor was used to search for all words containing c followed by e or i, as specified

by the generalization, c+e,i::/s/. Original computer programs were created to conduct the second set of searches for generalizations such as CVC::-V-/ in which graphemic conditions are given in generic rather than specific terms.

The computer searches resulted in lists of words from each reading series that met the graphemic conditions specified by the individual generalizations. Words containing graphemic patterns relevant to more than one generalization were evaluated separately for each generalization.

Data Analysis

Identification of Conforming and Nonconforming Words

The researcher checked pronunciations of all words in the lists of orthographically conforming words to determine whether actual word pronunciations conformed phonemically to the predictions made by the phonic generalizations. Webster's New World Dictionary (1980) was used as the guide for standard pronunciation.

Computing Intraprogram Percent of Reliability and Applicability

A percent of reliability was computed for each generalization taught within a series. The percent indicates the relative number of times a generalization yields a reliable

pronunciation when it is applied to words containing the specified graphemic pattern.

In the present study the researcher applied each generalization only to the vocabulary words found in the program where that generalization was taught. This tactic results in a clearer picture of the intraprogram reliability of phonics generalization instruction. By contrast, in the Clymer (1963) study it was possible to draw only tentative conclusions about the nature of phonics generalization instruction in individual programs because he worked from composite lists of generalizations and vocabulary words. Percent of reliability is used to describe the comparisons made in the current study. It replaces percent of utility, the term Clymer used to describe the comparisons he made among programs.

Percent of reliability was calculated using the following formula:

$$\text{Percent of Reliability} = \frac{\text{phonemically conforming words.}}{\text{graphemically conforming words}}$$

A second percentage, percent of applicability, was also calculated for each generalization. This percent indicates the overall usefulness of a generalization in relation to the entire vocabulary of a reading series.

The percent of applicability was calculated as follows:

Percent of Applicability = $\frac{\text{orthographically conforming words}}{\text{total (series) vocabulary words}}$.

Comparison of Current General-
izations with Clymer (1963)
Generalizations

The 45 generalizations identified by Clymer (1963) were transcribed into notational form so that the content of that set of generalizations could be compared to the content of the current set. Due to procedural differences in the two studies, only general observations about similarities and differences in content were warranted.

Results

Content of Generalization
Teaching in Current
Basal Readers

The first part of the analysis was to answer two questions: (a) What generalizations are taught in the primary levels of basal reading programs? (b) What commonalities exist in generalization teaching content among programs?

Table 1 contains a composite list of the generalizations found in the five basal reading programs.

[Insert Table 1]

A total of 42 generalizations was found among the five reading series. In any one series, however, the number of generalizations taught was only a fraction of the total. The numbers of generalizations per program ranged from 10 in Series D to 20 in Series C.

Of the 42 generalizations, only three were common to all five reading programs. Those three were: vowel generalization, CVCe::/-V*-/ (Table 1, item 1); syllable generalization, VC·CV (Table 1, item 40); and syllable generalization, V·CV (Table 1, item 41).

Two generalizations were found in four of the five reading series. They were: CVC::/-V-/ (Table 1, item 2), and Vr::/V&r/ (Table 1, item 15).

Two generalizations, g+e,i,y::/j-/ (Table 1, item 26) and ·Cle (Table 1, item 42), were found in three of the five reading series that were investigated. Of the remaining 35 generalizations, nine were found in two reading programs and 26 were found in only one program.

Reliability and Applicability

Percentages

Table 2 displays the intraprogram percent of reliability and percent of applicability for each phonic generalization. The percentages for item 1 in Table 2 are shown below:

CVCe::/-V*-/ 151::/87%/
 174::/ 6%/

This array is interpreted as follows: One hundred seventy-four words conformed graphemically to the CVCe generalization. This represented a 6% applicability level in Reading Series A. Of the 174 graphemically conforming words, 151 conformed phonemically to the generalization, giving a reliability of 87%.

[Insert Table 2]

Clymer (1963) set "two criteria as to what constituted a 'reasonable' degree of application" (p. 55) for the phonic generalizations he examined. They were: (a) that the percent of utility, or reliability, for the generalization be at least 75%; and (b) that a minimum of 20 words in the composite vocabulary list be orthographically conforming to the generalization specifications.

Clymer did not report the total number of words in his composite vocabulary list, so it is not possible to judge how the 20-word minimum translated into a percent of applicability. However, Baily (1965) conducted a study similar to the Clymer study in which she also used a 20-word occurrence as one criterion of reasonable degree of applicability. She examined a vocabulary of 5,773 words. In her study, a 20-word cutoff was equivalent to a .3% level of

applicability, as that percent is calculated in the present study.

Twenty-three of the generalizations from current materials meet a level of acceptability similar to that established by Clymer (1963). This count of 23 includes any generalization that was at or above the criterion level in at least one reading series.

Comparison of the Generalizations
Found in the 1963 Clymer Study
with Generalizations Found
in Current Basal Readers

It was impossible to make direct comparisons of generalizations identified in the current study with those identified in the Clymer (1963) study. This was due partly to differences in research procedure and partly to idiosyncracies in the generalizations themselves. It was possible, however, to separate generalizations from the two studies into four categories, which allowed for informal comparisons. The categories were: (a) Clymer generalizations matching generalizations in the current list, (b) Clymer generalizations that are subsumed by more generic statements in the current list, (c) Clymer generalizations that do not appear in the current list, and (d) current generalizations that are new (i.e., did not appear in the Clymer list).

Matching generalizations. Thirteen of Clymer's (1963) generalizations match generalizations found in current reading texts. Table 3 displays these generalizations along with the old and new reliability percents.

[Insert Table 3]

Data from the Clymer (1963) study showed that these 13 statements ranged from 33% to 100% reliability. Five of the statements failed to meet Clymer's 75% minimum level of acceptance in the original word list. These figures suggest that reliability was not the sole factor in the decision to include these generalizations in current basal reading programs.

Subsumed generalizations. Twelve of Clymer's (1963) generalizations are subordinate to more generic statements that appear in the current list of generalizations. Table 4 lists the current generalizations that subsume parts of Clymer's generalizations. Utility levels for both old and new generalizations are given.

[Insert Table 4]

Generalizations no longer in use. A number of the 45 generalizations that Clymer found in primary basal readers of his day are no longer taught in current texts. Table 5

lists the generalizations that no longer appear. Utility levels reported in the Clymer study are also listed.

[Insert Table 5]

Twenty of Clymer's (1963) generalizations no longer appear as generalizations in current materials. Ten of these had utility levels lower than Clymer's optimal level of acceptance. Several of the generalizations that no longer appear did, however, have reasonably high levels of utility. In most cases, the information contained in these generalizations appears in basal readers, though not in the form of generalization statements. Combinations like ew, ow, ch, and ie are most frequently taught as direct correspondences. Syllables such as a-, in-, re, -ture, and -tion are taught as recognition units without emphasis on accent.

New generalizations. Twenty-one generalizations in the current list are new generations; that is, they did not appear in the Clymer (1963) list. Except for one, C,CC-e::/-e*/ , each of these generalizations is unique to a single basal reading program.

Discussion

The content of generalization teaching is narrower and more idiosyncratic than one might first suppose. Though 42

separate generalizations were identified in the current study, no single reading series contained more than 20 of these generalizations; one series presented only 10. At the same time, only seven of the 42 generalizations were found in all five reading series that were examined. On the whole, only a minimum of phonics content found in current basal readers appears in the form of rulelike generalization statements. By contrast, Clymer (1963) originally located 121 generalizations, of which he studied 45. It is unclear from Clymer's research report whether the original 121 statements would have matched the definition for generalizations specified for this study. If they had, the current generalization list represents a much smaller number of statements.

Though the content of generalization teaching tends to be idiosyncratic when one program is compared with another, caution must be used in giving this finding a negative interpretation. Without a knowledge of how generalizations were selected for inclusion in a total phonics program, the basis for judgment is incomplete. Comparisons and criticisms of various reading programs are likely to be inappropriate if they are based on isolated components of the programs. In fact, variations in generalization statements may represent stylistic differences more than substantial content differences.

A major concern of this study was to determine whether vocabulary words presented in individual basal readers support the teaching of phonic generalizations by providing opportunities for frequent and consistent application. Reliability and applicability percents were used to indicate the relative degree to which the generalizations were supported in the vocabularies. Though it is only one of several pedagogical considerations related to the teaching of generalization statements, it does seem that opportunity should exist for ample, unambiguous practice in the application of generalizations. When reliability and applicability percents are used to judge the pedagogical value of generalizations, only a little more than half of the statements (23) met acceptability criteria adopted for this study (at least 75% reliability and .3% applicability). Individual reading series differed slightly in the numbers of highly reliable, highly applicable generalizations presented; in Series D, 90% (9 of 10 generalizations) met the criteria; in Series E, 54% (7 of 13 generalizations) met the criteria.

In a number of instances reliability percents give an incomplete picture of the usefulness of particular generalizations. One of these instances is an artifact of the research procedures used in this study. In an attempt to avoid overinterpretation of generalization statements and, in part, to simulate the naivete of beginning readers,

direct statements of generalization were taken from the basal teachers' manuals and were applied as literally as possible to the individual text vocabularies. One result of this procedure was that each generalization was treated as a discrete entity. In some cases this tactic resulted in lower utility levels than might have resulted if the researcher had interpreted the generalizations within the context of all other phonics instruction in a particular series.

The CVC::/-V-/ generalization exemplifies the problem. This generalization appeared in four reading series; in those series it had reliability percents ranging from 66% to 69%. In calculating instances of conformity to the generalization, words like bar, ball, and gnaw were counted as nonconforming occurrences. However, combinations like ar, all, and aw are usually taught as graphemic units, or common phonograms, elsewhere in the phonics programs that were studied. The intent of the program authors undoubtedly was to except these units from the CVC generalization. In this and other cases where systematic exceptions occurred, the generalization statement became a compromise between accuracy and simplicity. Though it seems reasonable to think that reliability and applicability are important dimensions in describing the usefulness of phonic generalizations, these data provide no information about how beginning

readers integrate individual generalizations within their larger understanding of phonics.

The reliability percents of certain generalizations that predict letter-sound correspondences in multisyllabic words may, in some instances, inadequately represent the usefulness of the generalization statements. In his examination into the nature of English orthography, Venezky (1970) concluded that "rules for pronouncing English monosyllables are relatively simple; those for pronouncing polysyllabic but monomorphemic words, more complex" (p. 121). It was not unexpected to find in the present study that generalizations like V·CV and VC·CV, which make predictions about vowel pronunciation in multisyllabic words, tend to have low reliability percents. From a pedagogical standpoint, however, such generalizations may be more useful than they first appear.

An example best illustrates the point. The following generalization was found in Series A: V·CV::/V*/first vowel. The generalization reads, "If there is one consonant letter between two vowels in a word, try decoding the first vowel with a long sound." Words like acorn, baby, and lazy fit the generalization. Words like camel, baboon, and every do not. There is a third category of words which, though they do not mirror the (dictionary) pronunciation predicted by the generalization, are reasonable approximations of that

pronunciation; this category includes words like ahead, direction, and enough. If children have been taught to use phonic clues in producing pronunciations for the purpose of testing them for oral recognition, then it is possible that even a rough approximation of word pronunciation may serve a useful decoding clue. If so, some generalizations may be more useful than reliability percents indicate. Many questions exist about how children "generalize" in their use of generalizations, or in their use of other phonics instruction.

Reliability and applicability percents give rough estimates of the amount and regularity of practice opportunity provided in the basal reader vocabularies for the application of phonic generalizations. Other data are needed to explain how children integrate the individual components of phonics instruction with generalization instruction, and how children actually apply the generalizations as they read.

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Table 1
Generalizations Found in the Teacher's
Manuals of Five Basal Readers

Generalizations	Basal reader				
	A	B	C	D	E
<u>Vowel principles</u>					
1. CVCe::/-V*-/	.a	•	•	•	•
2. CVC::/-V-/	•		•	•	•
3. 2,3S-y::/-e*/	•			•	
4. C,CC-e::/-e*/	•			•	
5. VV(in)S _{unaccented} ::/ə/		•			
6. -y::/i*,e*/ vocalic			•		
7. VCC+ed,er,ing,le::/V-/	•				
8. V+ld,nd::/V*,V-/	•				
9. C,CC-V::/-V*/					•
10. 1S-y::/-i*/	•				
11. a+l,1l,1k::/ô/		•			
<u>Vowel digraphs</u>					
12. VV::/V#/ ee,ea,oa,ai,ay		.b			•
13. VV(in)S'::/V*/					•
14. VV(in)1S::/V*/					•

^aWords ending in ve may be an exception.

^bProgram includes ai, oa, ee, but not ea or ay.

Table 1 (Continued)

Generalizations	Basal reader				
	A	B	C	D	E
<u>R-influenced vowels</u>					
15. Vr::/V&r/	•	•	•		•
16. -ir, irC(C)::/ur/			•		
17. -ur, urC(C)::/ur/			•		
18. -ire::/-i*r/			•		
19. -ar, arC(C)::/är/			•		
20. -or, orC(C)::/ôr/			•		
21. -Vre::/≠V*,V,V&r/			•		
22. er+r,y::/er/			•		
23. -er, erC(C)::/ur/			•		
<u>Phonograms</u>					
24. o+ld::/o*-/					•
25. i+ld,ght::/i*-/					•
<u>Consonants</u>					
26. g+i,e,y::/j-/	•		• ^c	•	
27. -ge,dge::/j/	• ^d		•		
28. CC1::/C/	•			•	
29. -CC1::/C/		• ^e			•

^cSeries C does not include y in this generalization.

^dSeries A does not include -dge.

^eIncludes ending ck.

Table 1 (Continued)

Generalizations	Basal reader				
	A	B	C	D	E
30. c+e,i::/s-/			•	•	
31. -g::/g/	•				
32. y-::/y/ consonantal				•	
33. kn-::/n/		•	•		
34. -lk::/k/	•				
35. wr-::/r/		•	•		
36. -x::/ks/	•				
37. -mn,mb::/m/	•				
38. gh-::/g/		•			
39. x-::/z/	•				
<u>Syllable division</u>					
40. VC·CV::/V-/ first vowel	•	•	•	•	• ^f
41. V·CV::/V*-/ first vowel	•	• ^g	• ^h	•	•
42. ·Cle		•		•	•
Total generalizations per program	18	12	20	10	13

^fDo not divide between th, ch, ck, sh.

^gInstructions are to try the long vowel in first position; if that does not work, try the short sound.

^hTry the long vowel sound first in this pattern; if that does not work, divide after the consonant, and try the short sound of the first vowel.

Table 2
Reliability and Applicability Percents for Generalizations
Found in the Teacher's Manuals of Five Basal Readers

Generalizations	Basal Reader				
	Series A	Series B	Series C	Series D	Series E
<u>Vowel principles</u>					
1. CVCe::/-V*-/	151::/87%/ ^a 174::/6%/	111::/79%/ 141::/8%/	95::/77%/ 123::/7%/	140::/81%/ 173::/6%/	119::/81%/ 147::/7%/
2. CVC::/-V-/	462::/69%/ 671::/22%/		311::/66%/ 477::/29%/	415::/67%/ 603::/20%/	321::/66%/ 486::/22%/
3. 2,3S-y::/-e*/	203::/94%/ 217::/7%/			207::/91%/ 228::/8%/	
4. C,CC-e::/-e*/	6::/100%/ 6::/.2%/			7::/100%/ 7::/2%/	
5. V(in)S _{unaccented} ::/ə/		379::/49%/ 778::/43%/			
6. -y::/i*,e*/vocalic			98::/85%/ 115::/7%/		
7. VCC+ed,er,ing,le::/V-/ ...	98::/90%/ 109::/4%/				

^aWords ending in ve may be an exception.

Table 2 (Continued)

Generalizations	Basal Reader				
	Series A	Series B	Series C	Series D	Series E
8. V+ld,nd::/V*,V-/	80::/88%/				
	99::/3%/				
9. C,CC-V::/-V*/					9::/64%/
					14::/.6%/
10. 1S-y::/-i*/	11::/55%/				
	20::/.6%/				
11. a+l,1l,lk::/ô/		25::/47%/			
		53::/3%/			
<u>Vowel digraphs</u>					
12. VV::V#/ee,ea,oa,ai,ay		85::/78%/ ^b			174::/67%/
		109::/6%/			253::/11%/
13. VV(in)S'::/V*/					86::/59%/
					145::/6%/
14. VV(in)1S::/V*/					140::/57%/
					247::/11%/

^bProgram includes ai, oa, ee, but not ea or ay.

Table 2 (Continued)

Generalizations	Basal Reader				
	Series A	Series B	Series C	Series D	Series E
<u>R-influenced vowels</u>					
15. Vr::/V&r/	574::/93%/ 618::/20%/	418::/93%/ 449::/25%/	382::/91%/ 418::/25%/		520::/93%/ 561::/25%/
16. -ir,irC(C)::/ur/			9::/100%/ 9::/.5%/		
17. -ur,urC(C)::/ur/			6::/100%/ 6::/.4%/		
18. -ire::/-i*r/			2::/100%/ 2::/.1%/		
19. -ar,arC(C)::/är/			25::/74%/ 34::/2%/		
20. -or,orC(C)::/ôr/			18::/50%/ 36::/2%/		
21. -Vre::/V*,V,V&r/			15::/47%/ 32::/2%/		
22. er+r,y::/er/			4::/44%/ 9::/.5%/		
23. -er,erC(C)::/ur/			2::/3%/ 68::/4%/		

Table 2 (Continued)

Generalizations	Basal Reader				
	Series A	Series B	Series C	Series D	Series E
<u>Phonograms</u>					
24. o+ld::/o*/					8::/100%/ 8::/.4%/
25. i+ld,ght::/i*/					21::/75%/ 28::/1%/
<u>Consonants</u>					
26. g+i,e,y::/j-/	60::/74%/ 81::/3%/		39::/81% ^c / 48::/3%/	38::/70%/ 54::/2%/	
27. -ge,dge::/j/	30::/100% ^d / 30::/1%/		24::/100%/ 24::/1%/		
28. CC1::/C/	322::/98%/ 328::/11%/			293::/99%/ 295::/10%/	
29. -CC1::/C/		107::/100%/e 107::/5%/			61::/100%/ 61::/3%/

^cSeries C does not include y in this generalization.

^dSeries A does not include -dge.

^eIncludes ending ck.

Table 2 (Continued)

Generalizations	Basal Reader				
	Series A	Series B	Series C	Series D	Series E
30. c+e,i::/s-/			48::/89%/ 54::/3%/	80::/90%/ 89::/3%/	
31. -g::/g/	28::/46%/ 60::/2%/				
32. y-::/y/consonantal			14::/100%/ 14::/.5%/		
33. kn-::/n/		7::/100%/ 7::/.4%/	7::/100%/ 7::/.4%/		
34. -lk::/k/	8::/10%/ 8::/.3%/				
35. wr-::/r/		6::/100%/ 6::/.3%/	5::/100%/ 5::/.3%/		
36. -x::/ks/	4::/100%/ 4::/.1%/				
37. -mn,mb::/m/	4::/10%/ 4::/.1%/				

Table 2 (Continued)

Generalizations	Basal Reader				
	Series A	Series B	Series C	Series D	Series E
38. gh-::/g/		2::/100%/			
		2::/.1%/			
39. x+::/z/	(no words listed)				
<u>Syllable division</u>					
40. VC·CV::/V-/first vowel ...	441::/78%/	288::/82%/	156::/74%/	267::/52%/	429::/88%/ ^f
	567::/1%/	350::/20%/	211::/13%/	515::/15%/	490::/22%/
41. V·CV::/V*-/first vowel ...	78::/26%/	88::/37%/ ^g	112::/52%/ ^h	74::/24%/	80::/34%/
	298::/10%/	260::/14%/	215::/13%/	313::/11%/	233::/11%/
42. ·Cle		39::/95%/		41::/100%/	47::/96%/
		41::/2%/		41::/1%/	49::/2%/
Total words in series	3,085	1,789	1,657	2,941	2,205

^fDo not divide between th, ch, ck, sh.

^gTry the long vowel sound first in this pattern; if that does not work, divide after the consonant, and try the short sound of the first vowel.

^hInstructions are to try the long vowel in first position; if that does not work, try the short sound.

Table 3
Current Generalizations Common to
the Clymer (1963) List

Generalizations	A	B	C	D	E	Clymer
<u>Vowel principles</u>						
CVCe::/-V*-/	87%	79%	77%	81%	81%	63%
CVC::/-V-/	69%		66%	67%	66%	73%
C,CC-V::/-V*/					100%	33%
<u>Vowel digraphs</u>						
VV::/V*#/		68%			69%	58%
ai						ai-83%
ea						ea-62%
oa						oa-86%
<u>R-influenced vowels</u>						
Vr::/V&r/	93%	93%	91%		93%	86%
<u>Consonants</u>						
g+i,e,y::/j-/	74%		81%	70%		80%
CCl::/C/	98%			99%		98%
c+e,i::/s-/			89%	90%		90%
kn-::/n/		100%	100%			100%
wr-::/r/		100%	100%			100%
<u>Syllable division</u>						
VC·CV::/V-/first vowel	85%	82%		67%		80%
V·CV::/V*/first vowel	26%	37%	52%	76%	34%	47%
.Cle		95%		100%	96%	83%

Table 4

Current Generalizations That Subsume Parts
of Clymer's (1963) Generalizations

Current subsuming generalization	Source and percent of utility	Clymer generalization	Percent of utility
<u>Vowel principles</u>			
CVCe::/-V*-/	Series A: 87% B: 79% C: 77% D: 82% E: 81%	a,iCe::/a*,i*/	48%
CVC::/-V-/	Series A: 69% C: 66% D: 67% E: 66%	CeC::/-V/	71%
2,3S-y::/-e*/	Series A: 94%	-y,ey-S::/-e*/ unaccented	1%
-y::/i*,e*/vocalic	Series A: 85%	-y::/vowel sound/	98%
a+l,ll,lk::/ô/	Series B: 47%	a+l,u,w::/ô/	24%
<u>Vowel digraphs</u>			
VV::/V*#/ee,ea,oa,ai,ay ...	Series B: 78% E: 67%	ee::/e*/ ay::/a*#/	100% 100%
<u>R-influenced vowels</u>			
-Vre::/V*,V,V&r/	Series C: 47%	a+re::/er/	100%
<u>Consonants</u>			
-CCl::/C/ ^a	Series B: 100%	-ck::/k/	100%
<u>Phonograms</u>			
i+ld,ght::/i*/	Series E: 75%	i+gh::/i*#/	100%
<u>Syllable division</u>			
VC·CV	Series E: 88%	th,ch,sh, undi- vided in VC/CV pattern S'-VC,VCC::/-V*-/	100% 64%

^aSeries B states that identical consonants, or consonants making same sound, make only one sound at the end of a word.

Table 5

Clymer Generalizations No Longer Appearing in Current Lists

Generalizations	Percent of utility
<u>Vowel principles</u>	
ie::/#e*/	18%
w+a::/u/	28%
wsometimes vocalic acts as digraph	31%
-ysometimes vocalic::/i*/	4%
S-y,ey::/e*/in last unaccented syllable	1%
-elengthens vowel in 2- and 3-syllable words	42%
<u>Vowel digraphs and diphthongs</u>	
e+w::/u/	14%
ow::/o*/	50%
<u>Consonants</u>	
ch--makes one sound	100%
ch::/ch/	67%
c+o,a::/k/	100%
ght::/#t/	100%
<u>Syllable division</u>	
a-, in-, re-, ex-, de-, be- unaccented syllables ...	83%
S'S-Cy	100%
S'S	81%
-tureunaccented as last syllable	100%
-tionunaccented as last syllable	100%
vgoes with preceding vowel to form syllable in 2- or 3-syllable words	40%
If last syllable sounds like /r/, it is unaccented..	96%